



BADGER STATE Smoke Signals



Serving Amateur Radio in Wisconsin

Published Monthly Since 1969

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Vol. 18 No. 6 - 210th Consecutive Monthly Issue - Baraboo, Wisconsin - June 1987

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Wisconsin Rapids Traffic Demonstration a Success

By Gene Santoski, K9UTQ
1220 18th Avenue South
Wisconsin Rapids WI 54494

tions were on display.

Taking part in the demonstration, which went quite well, were: K9CJM, KA9WCF, KF9I, KD9QL, WB9QXO, and K9UTQ (our Section Traffic Manager).

On Saturday, April 4th, the Wood County ARES group gave a demonstration of Amateur Radio to various emergency services in the county.

The station shown in the photo was set up and on the air in less than 20 minutes - antenna and all!

For power, a gas-driven generator was used, and, for the antenna, an inverted vee was hoisted aloft on the flag pole in front of the court house.

The primary purpose of the demonstration was to show the HF long-haul traffic handling capabilities that would be available for health and welfare messages being sent into and out of a disaster area.

Most local authorities are quite familiar with the 2-meter capabilities and repeaters, but are not fully aware of what can be done to set up communications for long distance. When the Badger Emergency Net went on the air that day, those in attendance got a first-hand look at how a traffic net operates, and how efficiently messages can be sent from one place to another. Other nets were monitored on 20 meters.

Sample radiograms were on display, covering various hypothetical situations, such as requesting more volunteers, more medical aid, and various types of health and welfare messages using ARL numbered texts. Also, various charts depicting how the NTS func-

Helping the Wood County ARES group demonstrate long-haul Amateur Radio traffic handling capabilities were Teri Larkee, KA9WCF (left) and Gene Santoski, K9UTQ. K9UTQ Photo



The 220 MHz Grab: Update

Comments continue to be filed by amateurs against Docket 87-14, the FCC proposal to reallocate the bottom 2 MHz of the 220-MHz band to the Land Mobile Service.

At last count, approximately 1500 comments had been received by the Commission in opposition to the proposal, with only a handful of comments filed in favor of it.

We had reported earlier that the FCC had denied the Association of Radio Reading Services (ARRS) petition for 500 KHz of the 220-MHz band. The ARRS has now filed a Petition for Reconsideration with the Commission. The petition notes that one week prior to denying the original petition, the Commission proposed, in Docket 87-14, to reallocate part of the band to the Land Mobile Service and that the FCC

could have easily incorporated the ARRS petition in it.

Two of the major reasons the FCC denied the petition were, according to the FCC, that the ARRS had not taken into account the costs of establishing and maintaining its own stations, and the ARRS claim that receivers could be built for the 220-MHz band for \$25. In its Petition for Reconsideration the ARRS sheds no new light on these claims, stating that the original petition addressed these items in detail, and that the Commission should explain why it "remains unpersuaded" by the ARRS claims.

In other 220-MHz news, the ARRL petitioned the FCC on April 30 to issue a cease and desist order against Aerotron, a

(Continued on page 5)

Field Day:

1800 UTC June 27 to
2100 UTC June 28

Take Some Photos for BSSS!

- IN THIS ISSUE -

Communicators Needed!!!!-----6
Here's W9ZM-----7
The Way it Was - 1923-----8
Gov's Conference Summary-----8
John's Junk Box-----11
Small Talk-----12
Subscription Blank - Use It!---12
Unusual Trivia Quiz-----16

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The opinions expressed in editorials, guest editorials, columns, and letters are the opinion of the authors only, and do not, unless otherwise stated, express or imply agreement or endorsement by Badger State Smoke Signals, or any other organization.

Swapfests and other Social Events

*** PLEASE NOTICE DATE CHANGE ***

On Sunday, June 7, 1987, The Great River ARC of Dubuque, IA., will sponsor the annual Cassville Hamfest and Fish Fry at Cassville, WI. Catfish will be available for approximately \$2.50 per serving. Bring your own table service and a dish to pass.

The Fish Fry will be held in the Cassville City Park, which is on the bank of the Mississippi River in the south end of Cassville. There will be a talk-in on 52 simplex and on the Dubuque repeater, 147.84/24.

There will be some tailgating of Amateur gear so anyone wishing to do some trading is most welcome.

Anyone who plays a musical instrument is invited to bring it along. There will probably be some jamming by N9GBY, WA0DCB, NS0U, and KA9KLZ.

There are campgrounds located in the area around Cassville, and there are many interesting things to see, not to mention the fishing in the area.

More information can be obtained by contacting: Art Acheson Jr., WA9UXL, 117 Bluff St., Cassville, WI 53806. (608) 725-5239.

All Hams, their families and friends, or anyone interested in Amateur Radio is Cordially invited to the Cassville Fish Fry and Picnic.

Sunday, June 21, 1987. Stevens Point, WI, 10th annual Swapfest and Family Picnic. Held at Bukolt Park on the Wisconsin River. Sponsored by the Central Wisconsin Radio Amateurs Ltd. Packet Radio demonstration. WNA meeting at 1:00 p.m. License Exams at 9:00 a.m. (see TESTPOINT for contact info.) Swaptables and Tailgate sales \$2.50. See ad with map elsewhere in this issue.

July 10-12, 1987. ARRL National Convention in Atlanta GA. Contact: ARRL or Atlanta Radio Club, P.O. Box 77171, Atlanta, GA 30357.

Saturday, July 11, 1987. The annual Eau Claire ARC Hamfest. Contact: Gene Lieberg, 2840 Saturn Ave., Eau Claire, WI. 54703. See ad elsewhere in this issue.

Saturday, July 18, 1987. South Milwaukee Amateur Radio Club's Swapfest "87" at American Legion Post 434 in Oak Creek, WI. Buy, sell, swap, food, drinks, prizes and camping. Amateur Radio Exams. WAPR (packet radio) meeting. Tickets \$3.00. Ad with map for this Badger State Booster will be in next months issue.

August 9, 1987. Hamfesters Radio Club, Inc., 53 Annual Hamfest, Willow Springs, IL. (Near Chicago) Contact: John Schipitsch, W9BNR, 13058 Finch Court, Lockport, IL 60441.

Saturday, August 15, 1987. The Green Bay Mike & Key Club Swapfest.

Saturday, August 15, 1987. Rhinelander Swapfest, sponsored by Northwoods Amateur Radio Club and ARES. Contact: Leonard Bauman, K9RMN, 1312 Dorothy St., Rhinelander, WI 54501. (715) 369-3296

September 19-20, 1987. Peoria Superfest '87, Peoria, IL. Contact: Superfest '87, P.O. Box 3461, Peoria, IL 61614.

September 26-27, 1987. Radio Expo-87, Lake County Fairgrounds, Grays Lake, IL. Contact: CFMC, P.O. Box 1532, Evanston, IL 60204.

Sunday, October 25, 1987. Kettle Moraine Radio Amateurs Ham, Computer, and Video Fest at Waukesha, WI. Contact: KMRA, 313 Hillview Circle, Waukesha, WI 53188

November 7, 1987. AMSAT, 5th Annual General Meeting and Space Symposium, Southfield MI. Contact: AMSAT, P.O. Box 1091, Ann Arbor, MI 48109-1091

As a service to our readers, this section of Badger State Smoke Signals is available without charge to list your upcoming Swapfest, Hamfest, dinner, picnic, party or other event of interest to Radio Amateurs in Wisconsin and nearby areas.

Send information on your event to Kenneth A. Ebner, K9EN, 822 Wauona Trail, Portage, WI 53901. In addition, space is available at attractive rates on our advertising pages, and/or we can include your flyers. For information on rates and requirements for our advertising pages, and/or for including flyers, please contact K9ZZ or K9EN.

=====

One of our readers says he prefers bowling to golf for a number of reasons, one of which is that he's never lost a bowling ball.

Dermatologists make rash judgments.

Club Meetings

BADGER-AMATEUR RADIO SOCIETY
 (W9YT - UNIVERSITY OF WISCONSIN - MADISON)

Regular monthly meetings are held at 7:30 PM on the 2nd Wednesday of every month while school is in session, in B314 Electrical Engineering Building.

CENTRAL WISCONSIN RADIO AMATEURS, LTD.
 (STEVENS POINT)

Regular club meetings are held on the second Wednesday of the month.

EAU CLAIRE A.R.C.

The Eau Claire Amateur Radio Club meets on the second Tuesday of the month at the Parks and Recreation Building at Oxford and First Streets in Eau Claire. Meeting time is 7:30 P.M. Hams and guests are welcome. Travelers in the area are invited to use the club's wide-area repeater K9UXP on 146.31/91.

FOUR LAKES A.R.C. (MADISON, WI)
 RED CROSS BUILDING, 4860 Sheboygan Ave, Madison, WI., first and third Tuesday each month.

FOX CITIES AMATEUR RADIO CLUB
 Regular meetings at 7 pm, the third Monday of the month at Roosevelt Jr. High School, 318 E. Brewster St., Appleton, WI 54911. 424-735-6294 for info.

GREEN BAY MIKE & KEY CLUB
 The Green Bay Mike & Key Club meets the 2nd Thursday of each month at the American Red Cross Bldg., corner of Danz and Deckner in Green Bay.

GREEN FOX AMATEUR RADIO CLUB
 Meetings are held the third Monday of the month at 7:30 p.m. at the Green Lake Town Hall located at the intersection of county highways K and N.

KETTLE MORaine RADIO AMATEURS
 All meetings are held on the SECOND (2nd) Friday of each month.

MANITOWOC COUNTY RADIO AMATEURS
 First Wednesday; 7 p.m. at City Hall, 817 Franklin St, Manitowoc, WI.
 Second Wednesday; Red Cross Building, 1816 Washington St., Manitowoc, WI.

MENOMONEE FALLS AMATEUR RADIO CLUB
 Meetings held the last Tuesday of the month at Security Savings & Loan in Menomonee Falls. Doors open at 7:30 p.m. Meetings start at 8:00 p.m. All Amateurs and persons interested in Ham Radio are welcome.

MILWAUKEE RADIO AMATEURS CLUB
 All regular meetings of MRAC scheduled at Wauwatosa Savings and Loan Building, 7500 West State Street, will be held on the second Thursday of the month.

OZAUKEE RADIO CLUB
 Meetings held every second Wednesday at 7:30 p.m. in the Saukville Community Center

QCWA - WISCONSIN CHAPTER 55

Saturday June 6, 1987. The Spring dinner meeting will be held at Fischer's Supper Club on Highway 12 in Lake Delton. 11:00 a.m. Registration with lunch at Noon and business meeting following.

RIVERLAND AMATEUR RADIO CLUB

Regular meetings are held at 7:30 P.M., on the first Tuesday of each month in the Onalaska Community Center in Onalaska, WI.

ROCK RIVER RADIO CLUB

The RRRC holds it's regular monthly meeting on the first Tuesday of the month at 8 p.m. The club meets at the Dodge County Sheriff's Dept. 141 N. Main in Juneau WI.

SHEBOYGAN COUNTY AMATEUR RADIO CLUB

Regular club meetings are held on the Second Tuesday of each month, at 7:00 P.M. at the Sheboygan Red Cross/Boy Scout building located at 2032 Erie Ave. in Sheboygan.

SOUTH MILWAUKEE AMATEUR RADIO CLUB

Meetings held at Legion Post 434, Shepard Ave., Oak Creek, on first Wednesday of the month. Auctions held at March and October meetings.

WEST ALLIS RADIO AMATEURS CLUB

Regular meetings are held on the second Tuesday of each month at St. Francis Savings, 9330 W. Greenfield Ave., at 8:00 P.M. June 9th will be Project Night.

THE WISCONSIN VALLEY RADIO ASSOCIATION, WAUSAU

Holds regular monthly meetings on the first Tuesday of the month at 7:30 p.m. The location varies, but information is available on the 146.04/64 repeater in Wausau.

YELLOW THUNDER AMATEUR RADIO CLUB

(BARABOO, WI)

All regular meetings of YTARC are at the Baraboo Civic Center. Meetings start at 7:30 P.M. Monday meetings are held in room 20. All others in Room 25.

Meetings dates for 1987 are: Tuesday, June 16; Wednesday, July 15; Thursday, August 13; Monday, September 14; Tuesday, October, 13; Wednesday, November 11; and Thursday, December 10.

Let us know of your club meeting dates, and we will let others know of your meetings and activities. There may be Amateurs in your area interested in joining your club, or members of other clubs interested in making an interclub visit.

MISCELLANEOUS MISCELLANEOUS MISCELLANEOUS

Oh what the heck -- items of interest:

Four Lakes Amateur Radio Club

THE FEEDLINE

On July 10, 1987, The FLARC will celebrate 50 years affiliation with the ARRL.

A special award was presented to Jim Anderson, N9AGH for his work above and beyond FLARC membership, for his work with emergency communications.

Kettle Moraine Radio Association

KETTLE DRUMS

Congratulations to: Tom Steckbauer, KA9SPD, on receiving his 2nd VUCC - this one for 2 meters; to Rick Kohler, WD9IWK, for upgrading twice in one month - first to General, and then to Advanced; and to Bruce Herrick, K1TMM on winning the Grand Prize of \$100.00 at the Tri-County ARC Swapfest in Jefferson.

Ozaukee Radio Club

ORC NEWSLETTER

ATTN BOY to Steve Ryer, WA9VNJ for his publication in the April 1987 issue of QST, Page 40. The Article titled DIGI-CAT. This instrument provides for digital frequency entry for the Yaesu FT 757 GX. Steve has parts kits for sale to anyone interested in duplicating it.

Rock River Radio Club

NEWSLETTER

Loren Skaltsky, W9DIG, of Waterloo was affectionately called "Digger" by his many Ham friends. He passed away on April 16th, at the age of 85 years. Loren was a charter member of the RRRC. He became a licensed Ham in 1928 and has held the same call sign for 60 years. "Digger" will be missed by his many friends.

Sheboygan County Amateur Radio Club,

NEWSLETTER

The river race was a success this year. There were about 23 canoes that made the race and the communications were handled by 12 club members at many check points.

Our thanks to the above mentioned clubs and their bulletins for the information presented. Badger State Smoke Signals will be pleased to exchange bulletins and information with your club. Please contact K9ZZ or K9EN.

The TEST POINT



The following are known locations where Amateur Radio license examinations are scheduled in the Badger State area.

June 6, 1987	St. Paul, MN
June 6, 1987	Appleton, WI
June 18, 1987	Onalaska, WI
June 20, 1987	Rhineland, WI
June 21, 1987	Stevens Point, WI
June 27, 1987	Waukesha, WI
July 18, 1987	Minneapolis, MN
August 9, 1987	St. Cloud, MN
August 22, 1987	Rhineland, WI
August 29, 1987	Annandale, MN
	(Robbinsdale ARC)
September 19, 1987	St. Paul, MN
September 26, 1987	Wisconsin Rapids, WI
October 17, 1987	Rhineland, WI
October 17, 1987	Minneapolis, MN
November 7, 1987	Richfield, MN
	(Robbinsdale ARC)
December 5, 1987	Stevens Point, WI
December 19, 1987	Rhineland, WI
December 19, 1987	St. Paul, MN

Monthly, First Sat. Racine, WI
Monthly, Third Sat. Loves Park, IL

GENERAL RULES FOR ALL EXAMINATIONS:

All examinations require filing an FCC Form 610 and advance registration at least 30 days before the exam date. (Some VECs may permit walkins. Check with sponsor to find out if they allow walkins.)

To register for these examinations, you must first secure a copy of the current FCC Form 610 and fill it out completely (AND CORRECTLY). Get your form from the FCC Field Office, the ARRL or Badger State Smoke Signals. Send a 22¢ SASE if you request one from the ARRL or BSSS. In most cases, forms can also be obtained from the sponsoring group. Remember-- you must file at least 30 days in advance unless otherwise indicated.

ARRL/VEC examinations require a check for \$4.35 payable to "ARRL/VEC".

The FCC now requires applicants to show their original Amateur license to the VEC. As in the past, a copy of your license must be attached to your FCC form 610.

Additional information is given below.

MILWAUKEE METRO AREA TEST TEAM - MRAC/VEC

Room 256, Wauwatosa East High School at 74th and Milwaukee Avenue - use the east (74th Street) entrance. Note: 74th Street is a one-way south street.

Bring your original license and a good photocopy, a pen, and \$4.25 for the exam fee. Walkins accommodated if time permits.

Register in advance on a Postal Service 14 cent postcard; print the grade of license you are applying for, your name, address, and telephone number. Send to:

The Milwaukee Radio Amateurs' Club, Inc.
N50 W16328 Pin Oak Court
Menomonee Falls WI 53051.

MILWAUKEE VOLUNTEER CORE GROUP - De Vry VEC

The following exam sessions will be held in rooms S0207 and S0225 at the Waukesha County Technical Institute:

June 27, 1987

Walkins are welcome at all exam sites. Free coffee served only at WCTI. Exams begin at 9:00 a.m. at all sites. Novice through Extra Class exams will be given.

If you are interested and wish to register for an exam, please send a post card with your name, address, phone number, date of the test session, and exams you wish to be tested for. Send the card to Syl Janczak, WD9JK7, 3127A West Madison, Milwaukee WI 53215.

Exams for shutins are given by appointment only.

The next scheduled VEC Exam sponsored by the Riverland ARC will be held Thursday, June 18, 1987 at 7 pm at the Onalaska Community Center, 515 Quincy Street, Onalaska, Wisconsin. You must advance register to insure the the test you want will be on hand. For registration contact:

Rick Williams, KV9U
via the W9LZQ-1 BBS or
524 Troy Street
Onalaska, WI 54650
phone (608) 783-8028

APPLETON, WI - ROOSEVELT JR. HIGH SCHOOL
318 E. Brewster St., Appleton, WI
Contact, KD9IA

RHINELANDER, WI - NICOLET COLLEGE
Science Center, Fireside Room - (DeVry VEC)
Contact: Len Bauman, K9RMN
1312 Dorothy St.
Rhineland, WI 54501
(715) 369-3296

WISCONSIN RAPIDS, WI - VOCATIONAL SCHOOL
Contact: Gene Santoski, K9UTQ
1220 18th St., So.
Wisconsin Rapids, WI 54494
(715) 423-6368

STEVENS POINT, WI - BLUE TOP INN
Contact: Joe Larson, N9JW
644 Portage St.
Stevens Point, WI 54481
(715) 344-1182

RACINE, WISCONSIN - ARRL/VEC
First Saturday of each month except during
summer and the Christmas holidays.

Exams are given at the Red Cross Building,
4521 Taylor Avenue, Racine WI 53405.

Pre-registration at least 40 days before the
test is desired, but walk-ins are permitted and
will be accommodated until the extra supply of
exams is exhausted.

Send pre-registration to: William R.
Firchol, Jr., N9DMP, 1912 27th Street, Kenosha WI
53140.

Third Saturday of every month.
Northern Illinois Volunteer Examiners (DeVry
VEC). Held at North Suburban Library on North
Second Street in Loves Park, IL.

Contact: Gene Melton, AK9N
2901 Billie Rd.
Rockford, IL 61109
(815) 874-6867

MINNESOTA TESTS

Gopher/Minneapolis ARC:	Robbinsdale ARC:
Avery Finn, KØHLA	Ron Schaultz, NAØU
P.O. Box 53	6308 Peacedale Ave.
Hopkins, MN 55343	Edina, MN 55424
(612) 448-5384	(612) 920-7473
St. Paul ARC:	St. Cloud ARC:
Jay Bellows, KØQBE	P.O. Box 141
997 Portland Ave.	St. Cloud, MN 56302
St. Paul, MN 55104	Leonard E. Carlson
(612) 222-7253	(612) 252-0414

This section of Badger State Smoke Signals
is available to publicize your Volunteer Exami-
neer Amateur Radio license examination schedules.

Please send us your schedules of dates,
times, and locations that you will be conducting
examinations and we will include the information
here. Be sure to include contact address and any
other necessary requirements. Information should
be sent to K9EN or K9ZZ at the address shown on
page 2.

Yellow Thunder Amateur Radio Club

**K9ODK
WB9FDZ**

The next meeting of the Yellow Thunder
Amateur Radio Club will be held Tuesday, June 16,
1987, in room 25 of the Baraboo Civic Center.
The scheduled program will include planning for
Field Day.

Due to the early printing deadline for Smoke
Signals, we are unable to include the minutes of
the May meeting this month. We will have them in
next month's issue.

YTARC member Bob Johnson, WB9EIW, was active
in the recent Wisconsin QSO party contest, as
shown in the accompanying photos. Assisting Bob
(right) were: Henry Schroeder, WB9QDT, (left) and
Dave Wagner, (center), no call yet, the driver
and logger.

A view of the rigs shown from the right rear
door of the Jeep. note the 2-meter HT clamped
under the low band rig.



Shown is the first stop during the Wisconsin
QSO Party. The 30 foot mast is mounted on the
trailer hitch and supports a Hustler whip for 40,
20 and 15 meters.

A closer view of the trailer hitch mounted
30 foot mast is shown during a dry run to test
the equipment. Henry Schroeder, WB9QDT, whose
call was used during the contest, is shown.

Birthday

Ken Ebner	K9EN	June	8
Harold Reif		June	18
Harry Mayland	K9FFT	June	24

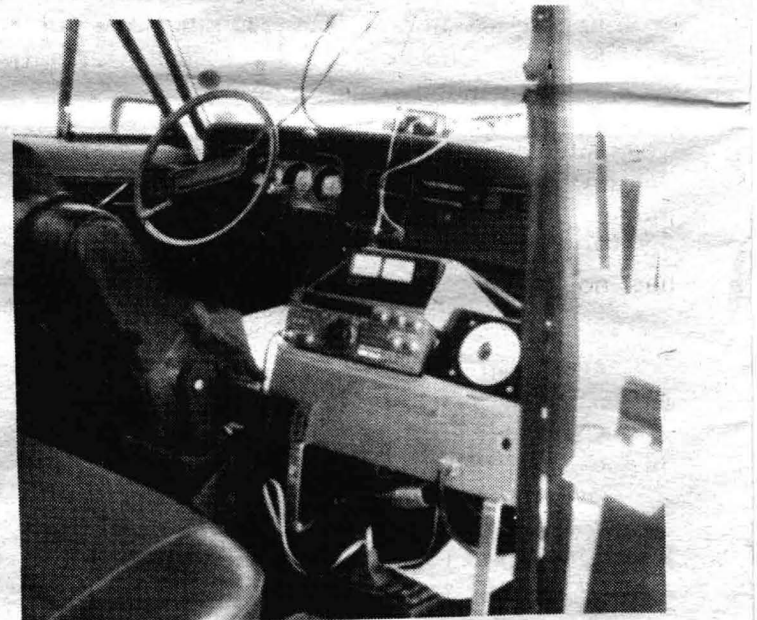
Sentence Sermon

Flag Day, June 14

A thoughtful mind sees not the flag alone,
but the nation itself, the principles, the
truths, the history back of it.

--Henry Ward Beecher

I pledge allegiance to the flag of the
United States of America and to the Republic for
which it stands, one nation, under God,
indivisible, with liberty and justice for all.



-FCC REVERSES HILDEBRAND RULING-

In 1982 there was an FCC action revoking the license of David Hildebrand, N6BHU, for violation of FCC rule 97.119 which prohibits obscene, indecent or profane language. The Commission said that although it can't censor or interfere with the rights of free speech through radio communications, it can impose sanctions on licensees who violate its rules.

However, a few months later, an FCC Review Board overturned the original ruling. The Board said that Amateur Radio only involves private transmissions and is not a form of broadcasting; since legal cases defining indecent matter were narrowly limited to broadcasting, the legal principles involved could not be extended to Amateur Radio.

This ruling was strongly opposed by the Private Radio Bureau of the FCC, which oversees Amateur Radio. The Bureau appealed to the FCC Commissioners to reverse the decision. The ARRL also filed a brief with the Commission arguing for a reversal. In its brief, the ARRL said: "The utterances of Hildebrand in this case were blatantly outrageous to the amateur com-

munity. For the Commission to sanction such language would undermine the integrity of the Amateur Radio Service in the United States more than any other single action the Commission could take."

On April 16, the Commissioners reversed the Review Board decision. The Commissioners said that Amateur Radio is "sufficiently like broadcasting" in that its frequencies are shared by many amateurs and there is a risk of children listening to the transmissions. The Commissioners also noted that Section 97.119 of the amateur rules specifically governs indecent transmissions and that amateurs should presume that the Commission's rules will be enforced.

The Commission did not fine Hildebrand or revoke his license, but limited its actions to a declaratory ruling and admonished Hildebrand against future violations. The Commission clearly indicated that similar violations occurring after April 16 by amateurs "would be subject to more severe sanctions."

(From The ARRL Letter, published by the American Radio Relay League)

THE 220 MHz GRAB: UPDATE

(Continued from cover)

a company which has advertised the availability of Land Mobile Service equipment in the 216-222 MHz range. Of course, the Land Mobile Service has no frequency allocations in this area so it would be impossible for Aerotron to have been granted type acceptance for its equipment on these frequencies.

In its petition, the ARRL states that FCC rules prohibit the advertising, display, sale or lease of equipment which cannot be legally operated under the FCC rules, and requests that FCC issue an Order prohibiting Aerotron from marketing such equipment.

Aerotron is a strong supporter of the FCC proposal to give 2 MHz of the 220MHz band to the Land Mobile Service. At recent industry shows, Aerotron distributed literature urging comments be sent to FCC in favor of the proposal.

At the Dayton HamVention's® FCC forum, Ray Kowalski, Chief of the Special Services Division of the FCC, commented that few amateurs had addressed the question of "narrowband technology" in the Land Mobile Service when commenting on Docket 87-14.

Kolwalski reminded amateurs that the Docket stated that the two megahertz were proposed to be used by the Land Mobile Service primarily for narrowband use (in the Land Mobile Service, "narrowband" mode means Amplitude Companded SSB [ACSSB]

which has about 25% of the bandwidth of FM).

Kowalski said that the question that should be addressed by amateurs is whether this new technology, incompatible with FM and untried in any other Land Mobile band, should be given a band of its own, or should it be integrated with present Land Mobile channels. He urged amateurs to continue to submit comments to the FCC, saying that all comments will be read and given due consideration.

(From The ARRL Letter)

UPGRADING: It has become fashionable, in some circles, to poke fun at Hams who upgrade. "I'm not interested in glory," said one guy. "The effort required is out of proportion to the reward. I'll tell 'em what they can do with their 20 words per minute." Not many candidates will be influenced by this kind of talk. After all, those who can pass Ham tests are not likely to be dummies.

--WØPDT in Kerchunk, Sooland
Amateur Radio Association

Let Badger State Smoke Signals serve your club's members as your club's newsletter. It costs as little as \$4.20 per member per year. For full information and requirements, contact Kenneth A. Ebner, K9EN, 822 Wauona Trail, Portage WI 53901, or call Ken at (608) 742-3560.

SPECTRALLY CODED
WAX STYLII AVAILABLE

From the GEARVAKf Bulletin
Spring 1987

A recent announcement from GEARVAKf Scientific Laboratories tells of the development of spectrally coded wax stylii for use in computer plotters and other output devices. The stylii were designed for use by computer-literate kindergarteners. They come in a wide variety of colors and are non-toxic if eaten. They can be used for computer graphics or for word processing in the new printer/plotter output devices.

An alternate stylus design substitutes water-based finger paints for the wax-based color medium.

The spectrally coded stylii, either wax- or water-based, are expected to reach the market in mid-summer. Initial production will be targeted for sale to nursery, primary, and elementary schools and universities in Ohio, West Virginia, and Kentucky, and the U.S. Congress. A prototype of the new stylii was recently demonstrated at the Pentagon and was promptly labeled "TOP SECRET."

--WB7TGQ

SUMMERTIME SALADS

Ahhh... Cool N' Lite 3.95

FRESH
FRUIT FAIR

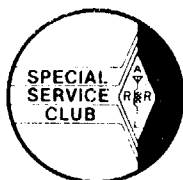
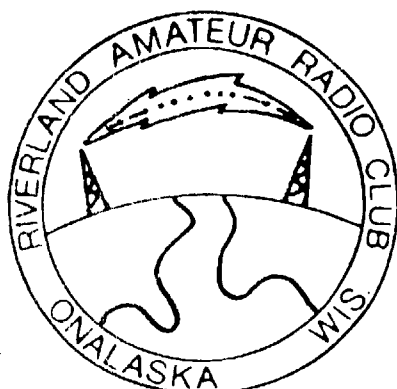


CHEF'S SALAD

TACO SALAD

1011 Eighth Street
Baraboo, WI 53913
356-7718





On May 5, 1987, at 7:30 p.m., the regular meeting of the Riverland Amateur Radio Club was called to order by Secretary/Treasurer Dick Low, due to the absence of the President and Vice President. Minutes of the April meeting were read from the Badger State Smoke Signals. The Treasurers report was read and approved.

37/97 REPORT

Craig, N9ETD, gave a report on the antenna raising event and thanked Jim K9LBX, Dick KØKTP, Dick KØJYB for helping with the new antennas.

Van, WA9FIO, handed out a comprehensive report on the status of the 37/97 repeater, and gave options as to what to do with the machine. Each member received a copy of the report.

OLD BUSINESS

Craig, N9ETD, presented two club jackets which are baseball style with cuffs, medium blue in color and has a club logo on the back and name and call letters on the left breast section of the jackets. The logos and calls are in yellow. The lined jackets are 25 dollars, logo on back \$2.50, name \$2.25, call \$2.25. Windbreakers are \$15.50 and knit cuffs are \$2.50. Orders will be taken until July 1st, with cash in advance.

Craig also reported on Field Day to be held June 27th and 28th. He presented a sign up sheet for operating time slots. Jim, K9LBX, has procured a site for the Field Day event. It is on the old WHLA site west of West Salem. It is on county road M past the gravel pit on Jostad Rd. or farm site and has an old windmill tower there. Jim suggested that we rent a portapotty, although Greg, KA9FOZ, will have facilities in his house trailer. Jim, K9LBX, has also arranged for generators at no cost to the club.

Greg, KA9FOZ, suggested that we write a letter three weeks in advance to radio and T.V. stations in order to get publicity for Field Day.

Feroz, N9FJL, presented a Lazer printed, enlarged copy of our constitution and standing rules. Ernie, K9ZVU, will review the document and Feroz will make a master copy which can be duplicated for club distribution.

NEW BUSINESS

Rick, KV9U, announced an Amateur Radio license exam to be given Thursday,

June 18, 7 p.m. at the Onalaska Community Center.

Walt, WD9GCR, played a tape from West Link out of Chicago via telephone line. The report was regarding the proposed 220-225 MHz band plan changes. Send QSL cards with info. on the back of the card to your congressmen on June 20, 1987 re: Docket 8714. Oppose the change.

Rick, KV9U, suggested that we re-new the coffee and doughnut hospitality hour. Bill, WB9VYI, volunteered to make coffee and purchase the doughnuts.

Bill, WB9VYI, and Dick, KØKTP, talked about ways to attract new members and helping new members become aware of the different facets in Amateur Radio and identifying their needs. We should sponsor Novice classes, sell new ideas to people, such as computers, and inform them of careers in electronics. Al, KA9VWW, volunteered to help or teach a Novice course as did Rick, KV9U.

Greg, KA9FOZ, will report on the meaning of a Special Service Club at our next meeting and presented a Special Service Club Award Certificate to the club.

Dave Stockwell, a student from the U of W introduced himself and expressed a desire to join the club next fall.

Tom Jeffers, WD9EAJ, introduced himself and also may become a member of the club.

A letter of apology from the Lockmaster of Dam #6 was read, as there was a mix up on April 18, during the Packet meeting at Sullivans and the tour was cancelled.

Respectfully submitted:

Dick Low, KØJYB

MEMBERS PRESENT

Craig Goldbeck
Dick Low
Van Elston
Duane Fruechte
Al Skwiercz
Wid Johnson
Maty Johnson
Bob Anderson
Feroz Ghouse
Hugh Barker
Ernie Gershon
Art Osborn
Tim Stoffel
Tom O'Brien
Phil Uehling
Tom Jeffers
Walt Altus
Bob Pluntz
Herman Ludvik
Bill Winder
Rick Williams
Dave Stockwell
Jim Burcum
Bill Wood
Ron Reed
Al Reinholz
Greg A. Miller
Gary Webb
Al Hoffman

N9ETD
KØJYB
WA9FIO
W9HWQ
W9QHN
W9DM
XYL
WAØVHO
N9FJL/4S7FG
KAØEJZ
K9ZVU
WØJDC
KA9SJI
WB9BJQ
W9UP
WD9EAJ
WD9GCR
WD9FKV
W9HJV
K9EGQ
KV9U
Guest
K9LBX
WB9VYI
KD9OY
N9FZE
KA9FOZ
NI9V
KA9VWW

PARADE COMMUNICATORS NEEDED

The Milwaukee County ARES is now recruiting volunteers to assist with the City of Festivals Parade (June 20) and the Great Circus Parade (July 12), both of which are held in downtown Milwaukee.

This will be the fifth year of the Festivals Parade and the third year of the Circus Parade. Both are "monsters" in terms of logistics, crowds and communications traffic. At least two VHF circuits are in almost constant use prior to and during the parades.

Extra help is needed. Every year the personnel situation has been tight. Depending on local signups, at least 10 and perhaps more out-of-town volunteers would be most welcome.

Most of the communications is conducted on 2 meters. Two repeaters are designated, with alternate frequencies for overflow. One channel is used for parade administration and the other for first aid/Red Cross traffic. A 450 MHz channel is used as an intercom. A synthesized two meter HT is essential, as are extra batteries.

If you wish to sign up, forward the following information to John Leekley, WB9SMM:

1. Name, call, address, phone number.
2. Which parade (or both) are you volunteering for; City of Festivals, Circus, or both?
3. Can you walk the route (about 3 miles) if assigned?
4. Do you have a 450 MHz HT?
5. Any other comments or questions.

Send your signup information to John Leekley, WB9SMM, W169 N8480 Sheridan Drive, Menomonee Falls, WI 53051, phone (414) 251-7056. Phone for answers to questions, but not to sign up, please. Also, if WB9SMM gets his packet system back up, you can connect and leave a sign up message via packet radio.

A briefing paper will be sent to all volunteers a few days prior to the parade. All volunteers from out of town should plan an early arrival (9-10 a.m. at the latest) in order to have time to pick up identification materials, revised roster and any last-minute instructions. Parking will be extremely tight, and little provision is made for volunteers. Plan accordingly.

Advertise your club's swapfest or hamfest here in Badger State Smoke Signals!

Kluge's Corner

604 8th Street
Baraboo WI 53913

MINI-MART - SERVICE STATION
Rental Property - Convenience Store
(608) 356-4026

Leonard Kluge, Prop.



Here's W9ZM

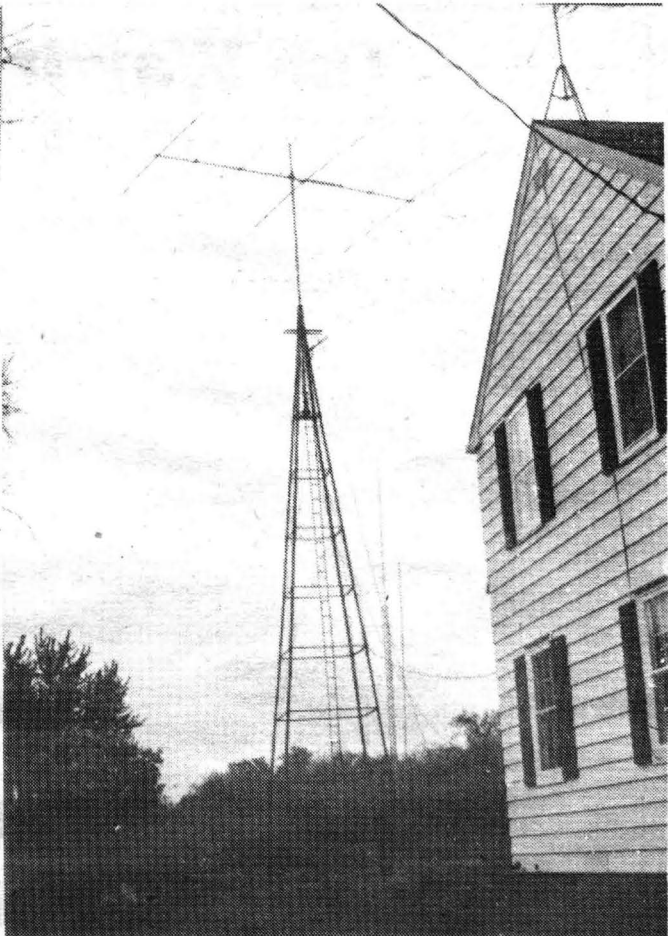
Occupying the top spot on the DXCC Phone Honor Roll at 353 countries, and the top spot on the Mixed Honor Roll at 366 countries (including all 317 current countries) is Art Saboe, W9ZM, of Madison. Art, pictured at left, also stands at 313 countries on CW.

First licensed as W9LNM in 1932, Art received his current call in 1977, when the FCC allowed Extra Class Amateurs to choose a 1 X 2 call sign.

He was one of the organizers of the Four Lakes Amateur Radio Club in the early 1930s, with the help of Floyd Briesse, W9IQQ, a vocational school instructor (now a silent key), and Carl Medrow, W9AK (now W3FA).

A windmill tower in Art's back yard sports a TH6-DXX, and there are verticals for 40 and 80 meters. See the photo at right.

- Story and photos by K9ZZ -



HAMS AND EGGS

Do the Hams in your area meet on a regular basis for breakfast and a gab session? If you do, and if you welcome visitors to join your breakfast bunch, tell us, and we'll spread the word. Send the information to K9ZZ; the address is on page 2. Please give the day of the week your bunch meets, where you get together (with directions to that location, if it is hard to find), and at what time.

The Madison "Zilch" group meets every Saturday morning at around 9:45 a.m. or so at Mother's Day restaurant (a new gathering place) in the Lake Edge Shopping Center on Monona Drive in Monona, just east of Madison. Visitors are always welcome.

- K9ZZ

HAM PIE

Don't forget the Walleye Net pie baking contest at the Oak Creek Swapfest on July 18!

Last year, the contest was declared a tie. This year, Bill, W9OVZ, and Norm, W9VST, both vow to win.

No matter who wins, we are all winners, as good old apple pie with ice cream is always a winner. Bill, K9AJF, says he will bring the ice cream to top it off.

Bernie, W9MNX, says he will make a cheese cake for dessert.

Ole, K9AKG, will have his camera loaded and get some pix of the event. See you there!

Ole Fox, K9AKG

HAM AND BREAD



Vic Vater, W9JHP, (left) sells the tickets and handles the bucks at the MARA Swapfest, held April 5 in Madison.

K9ZZ photo

We feature swapfest prices every day at our store —

More than 100 years of electronics experience!

Schrenk Electronic Sales Co.

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608-255-7400

CASSVILLE FISH FRY DATE CHANGE

Due to a date conflict, the date of the Cassville Catfish Fry has been changed from June 14 to June 7. See "Swapfests and Other Social Events" on page 2 for full information.

WANTED: SSB CB rig for conversion to 10 meters. Has to be in reasonable working order, and has to be cheap! K9ZZ, 412 1/2 Ash Street, Baraboo WI 53913. (608) 356-4249.

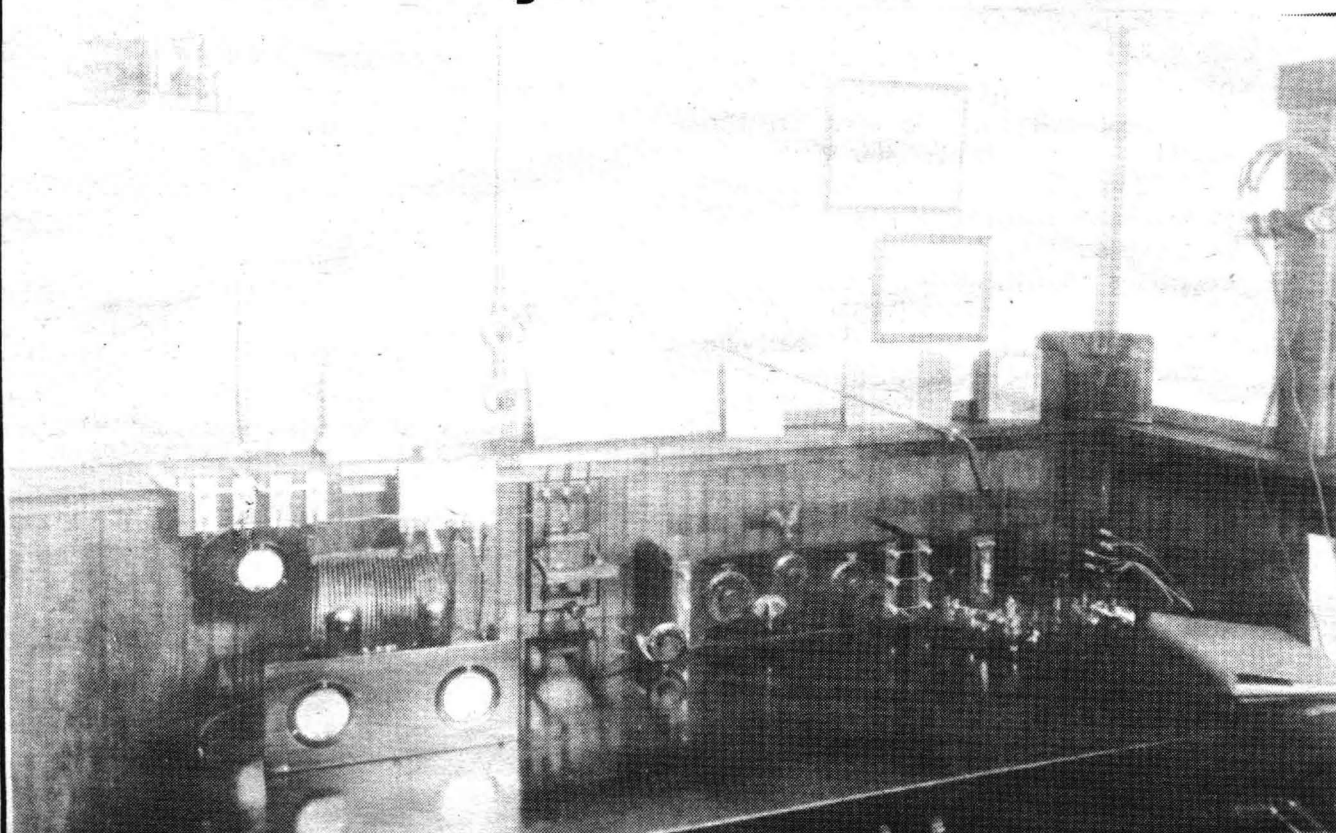
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ANSWERS TO MAY TRIVIA QUIZ

1. World Radio Labs/Globe
2. Grid dip oscillator
3. 28.1 to 28.5
4. 146.010 in/146.610 out
5. Ed Metzger, W9PRN
6. Lake Bluff, IL
7. 9V1
8. 5 hours from UTC
9. True
10. Increases

Send good quality Field Day photos to Badger State Smoke Signals!

The Way it Was - 1923



You might be interested in this picture of Station 8AIB, taken in the very early '20s. The licensee was Charles Fertick, later W8BQT. Housed in a backyard shack at 62 Vincent Street, Dayton, Ohio, and operated by the following amateurs: Charles Fertick, 8AIB (SK); Clinton A. Petry, 8AWN (SK); Robert E. Baird, W9NN; and Allen E. Apple, K4ILX.

On the floor beneath the CW rig is a 1 KW spark set, Benwood Rotary gap, "Coffin" Transformer, 2-foot OT, 40-plate condenser immersed in oil, 1/2-inch glass plates. Antenna was 60 ft. L, 6 wires with fan-type feed line. 4" OT coupling running 5 1/2 amps into ant. Best DX was a United Fruit boat off Brazil in late 1920, signing "DZ".... took till 1952 to confirm this when W9NN worked VP1AA, Belize, who confessed to being the operator at "DZ."

CW was pair 50 watt RCA, large chemical rectifier. RCA open inductance, resistance wire wrapped on piece of asbestos to drop filament voltage. Antenna

matching by adjusting clips on the big induction coil. Home-made receiver used two Variometers and a vario-coupler, two-filament Audiotron detector tube feeding two VT2 amplifier tubes. A series variable cond in receiver antenna line. Our ground system was an acre of copper ribbon obtained from old Dayton streetcar field coils.

Each of us had our own keys, phones, etc. Note the unique antenna change-over switch, 110 and 220 AC line on wall, stack of spark and CW QSLs. Faded pictures are of W9NN, 8AIB, and 8AWN.

We two remaining ops, W9NN and K4ILX, would love to hear from any old-timers who used to work us back in the "Spark Forever" days!

Bob Baird, W9NN
Charter Member QCWA #52
River Drive, P.O. Box 498
Plover WI 54467

AMATEUR RADIO NOT AFFECTED BY TARIFFS

The new tariffs against certain Japanese products do not affect Amateur Radio. On April 17, the US Government retaliated against what it called unfair trade practices by adding a 100% tariff on "18-20" color TV sets, power tools, and certain desk and laptop computers.

According to the US Government, Japan has sold microchips below cost in US and foreign markets undercutting US microchip manufacturers. This violates a trade agreement between the US and Japan.

It is anticipated that the tariffs will be discontinued once the administration believes that these unfair trade practices have stopped.

(From The ARRL Letter)

FOUND AT A HAMFEST



Thanks W9ODV/SCARC Newsletter

GOVERNOR'S CONFERENCE SUMMARY

RACES (Radio Amateur Civil Emergency Service) station WC9AAG was on the air from the 21st annual Governor's Conference on Emergency Management, held at the Concourse Hotel in Madison. This was the tenth year that volunteer Amateur Radio operators took part.

WC9AAG was active on 2 meter FM and packet, and on 75 meter SSB.

Dick Hugi, KC9CJ, Milwaukee, supplied a Kenwood 430S for 75 meters, along with 600 feet of coax and a 75-meter inverted vee antenna. Jim Anderson, N9AGH, furnished the packet setup (Heath rig, Commodore 64, printer, Packratt TNC, monitor, and antenna.) For voice operation on 2 meter FM, Russ Fleming's (WB9NYG) Azden 5000 was used.

Murphy had his nose in this operation, as he always seems to do. Propagation wasn't good, and the Azden's memories developed amnesia. But, all was not lost. 50 counties out of a total of 72 in the state were worked. 97 contacts were made on 75 meters, 129 on 2 meter FM, and 25 contacts in 16 counties were made on 2-meter packet.

Several of the 600-plus conference attendees were able to talk directly with Amateurs in their home counties. The Price county forest fire was in progress, and the WC9AAG crew obtained weather, wind speed and direction, and barometric pressure data in the areas near the fire.

Many Amateurs and their families (including your editor) were hoping to talk with Governor Thompson, but as Russ, WB9NYG, said, it would have required a very long mike cord - the Governor was in Germany on state business. Lt. Governor Scott McCallum was at the conference, but had to leave without even having lunch, and had no time to talk with us.

Many inquiries about the operation were fielded by the WC9AAG crew.

There are 625 registered RACES operators in Wisconsin. In a national emergency, only RACES operators would be able to operate; all other Amateurs would be forced off the air. If you are interested in becoming a registered RACES operator, contact your local Director of Emergency Government.

-WB9NYG & K9ZZ

FCC DECERTIFIES VECs

The FCC has decertified four more VECs. The decertified organizations are Adirondack ARC VEC (New York), AE4N/MARK4 VEC (North Carolina), Dunedin VEC (Florida) and Director of MARS VEC (Puerto Rico). According to the FCC, these VECs were decertified due to inactivity or failure to provide the FCC with the required annual Cost Recoupment Certification.

These now leave 21 different VEC organizations of which four -- ARRL, W5YI, Central Alabama, and DeVry -- conduct 85% of the testing.

(From The ARRL Letter)

Central Wisconsin Radio Amateurs, Ltd.

10th ANNUAL

SWAPFEST

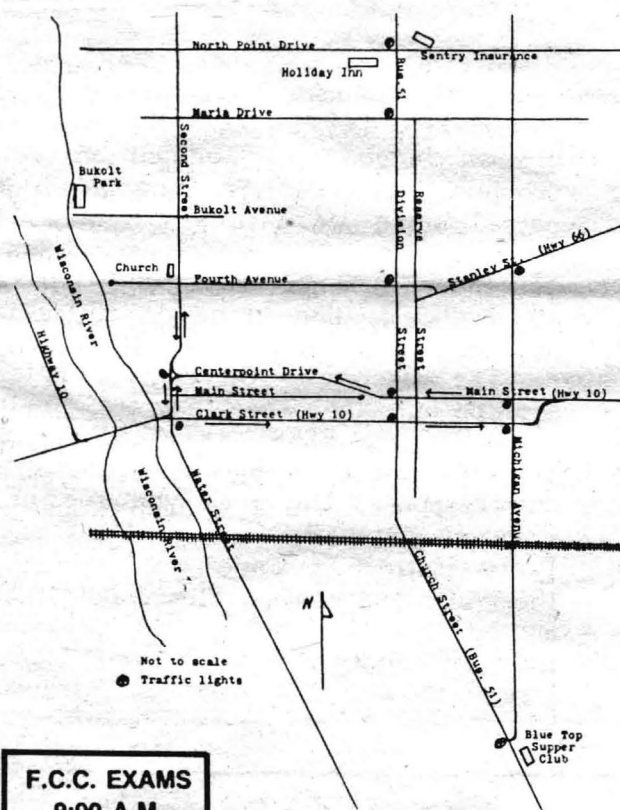
AND

FAMILY PICNIC

Sunday, June 21, 1987

Bukolt Park* on the Wisconsin River
Stevens Point, WI

HAM GEAR BY TNT RADIO SALES



PACKET RADIO

CONTINUOUS DEMONSTRATION

WNA Meeting 1:00 P. M.

8:00 a.m. **FREE ADMISSION** COFFEE

11:00 a.m. ... BRATS & HOT DOGS
2:00 p.m. PRIZE DRAWINGS

HAM PRIZE **FT-23R**
2 METER HT

More Than \$1000 Worth Of Prizes!

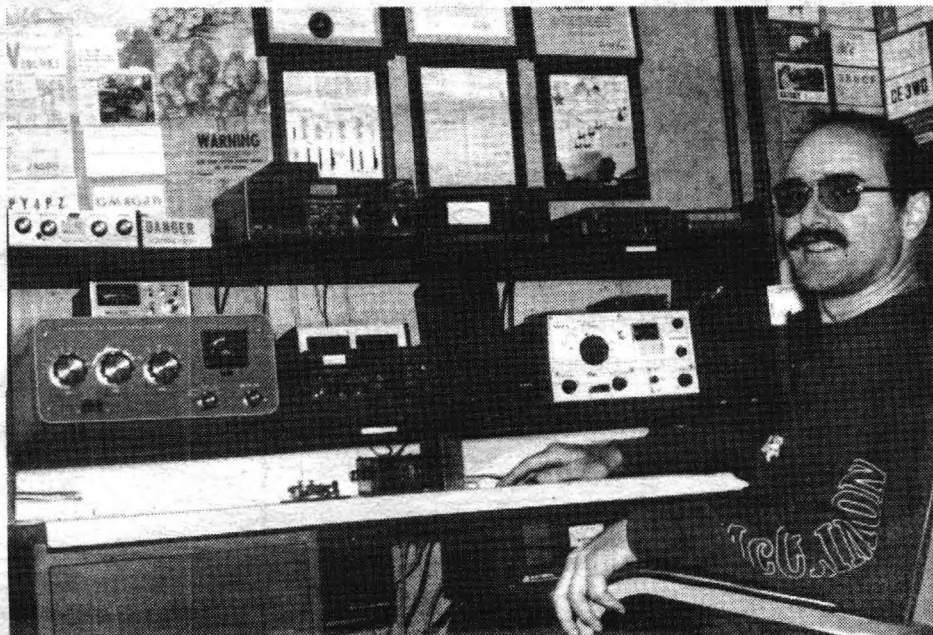
- *BEVERAGE STAND
- *INDOOR LODGE
- *OUTDOOR GRILLS
- *HORSESHOE COURTS
- *PICNIC TABLES

TALK IN
385/985
07/67 & 22/82
(WB9QFW)

SWAPTABLES and
TAILGATE SALES
\$2.50

- HAMCANDID -

Paul Goemans, WA9PWP, Madison, was first licensed in 1965 as WN9PWP. Since then, he has worked his way to Extra. He served 2 years as Secretary and 2 years as Vice-President of the Madison Area Repeater Association. He has Worked All States and Worked All Continents, and has about 100 countries tucked away. His wife, Jane, has a Technician ticket (N9AWW) and their two sons are Novices: Bob, KA9QXF and Steve, KA9RMG.



PROPAGATION PREDICTIONS



BY *Woody Minar* K9EF
13508 Tabscott Drive, Chantilly, Va. 22021

We're sorry, but Propagation Predictions does not appear this month; we waited until the last minute, but the column did not arrive.

NEW EDITION OF FCC RULEBOOK

The seventh edition of The FCC Rulebook should be available in early June. This edition will contain information on all recent FCC rule changes, including Novice Enhancement. You can't miss the distinctive fuchsia cover.

If you've never purchased one of these editions, you're in for a real treat. The FCC Rulebook is not just a dry rehash of the FCC rules. This (and past) editions contain hundreds of commonly asked questions which are answered in a style that is easy to read and understand. Every US amateur or prospective amateur should have a copy of the current FCC rules governing Amateur Radio.

The FCC Rulebook will be available for \$5.00 from your local dealer. You can also order direct from ARRL HQ (225 Main Street, Newington CT 06111. Add \$2.50 for postage and handling.)

(From The ARRL Letter)

DUNN COUNTY AMATEUR RADIO CLASSES SUCCESSFUL

Amateur Radio classes, which began in Menomonie on January 18, recently concluded, with 8 new Novices. They are:

Pat Allickson, Cedar Falls, no call yet
Jim Guenther, Menomonie, no call yet
Brian Leff, Menomonie, no call yet
Mike Ley, Menomonie, KA9WZN/KT
Jim Ley, Menomonie, KA9WZM/AA
John Karcz, Menomonie, KA9WZO
Jody Purvis, Knapp, KA9YEB
Mary Purvis, Knapp, KA9WZP/KT

Among those serving as instructors for the Novice classes were Darold Knouse, KA0DMG/AA; Stan Karcz, K9HNH/AG; Steve Hart, KA9OMC; Ron Purvis, WB9WKD/AA, and Tom King, KD9TT.

Several of the above new Novices, plus other Amateurs in the Dunn County area, have upgraded. They are:

Mary Purvis, KA9WZP/KT, Technician
Debbie King, N9GLG, Technician
Mike Ley, KA9WZN/KT, Technician
Stan Karcz, K9HNH/AG, General
Donna Knouse, KA0EBN/AA, Advanced
Darold Knouse, KA0DMG/AA, Advanced
Ron Purvis, WB9WKD/AA, Advanced
Jim Ley, KA9WZM/AA, Advanced
Tom King, KD9TT/AE, Amateur Extra

-- Tom King, KD9TT

Eau Claire A. R. C.

NEXT MEETING

The next meeting of the Eau Claire Amateur Radio Club will be Tuesday, June 9 at the Eau Claire Parks and Rec. Building at 7:30 p.m. Lunch committee is Lowell W9MEO, Jim KE9BC, and Ron KE9BM.

MAY MEETING SUMMARY

The meeting was called to order at 7:30 p.m. The minutes were approved as read. The Treasurer's report was approved as read.

OLD BUSINESS

WA9PAM reported on the Hamfest. Participation by businesses is somewhat limited both as to attendance and donation of prizes. Participants will include TNT, two satellite TV dealers - one of whom carries a line of radio gear - and two computer dealers. Club members discussed other potential dealer participants. KE9BM suggested putting an ad for the Hamfest in the Leader-Telegram; he will discuss this further with PAM. K9UXP has contacted NUT & VOLTS magazine; they will carry an ad for our hamfest and have donated two subscriptions as prizes. Steve KD9YO has arranged for a half-page ad in BSSS as requested by the club. Jim KE9BC discussed participation by Handihams - nothing definite yet.

Nothing more is known about the club's participation in the Altoona Centennial; John KA9RZL will presumably contact those who signed up should they be needed.

Call books were purchased (tnx UXP!) at Dayton and they are now held by John KA9VUE.

The Club Picnic was discussed. No date has been set, though it has usually been in August. Several sites were discussed as well as potential conflicts with other events. After much discussion it was moved and seconded that the club try to reserve a spot as soon as possible for a Saturday or Sunday in August - preferably after our August meeting. The motion passed and President Spratt appointed Randy KAØROS to make a reservation. The park at Altoona Beach and Riverview Park were suggested as possible choices.

LJK discussed Field Day (June 27-28) plans. Plans are going well using the two station concept discussed at last meeting. Some equipment has been lined up. Those wanting to bring equipment (as well as those who want to participate) can contact KA9LJK or KD9OB. The two stations will probably be in close proximity to permit operators to spend time at each station.

The 4-H Fairgrounds is a suggested site as is Mt. Simon Park. Potential interference problems will be avoided by careful regulation of operations with the "competitive" station having priority.

Tangential to the discussion of Field Day operations was a discussion of the club's purchasing a trailer to serve as a mobile communications center. Field Day would be a good example of use for such a trailer. It would also serve for emergency communications and as an easily set-up and very visible base of operations at public events. LJK mentioned that the future of the County's 6X6 Communications Vehicle is uncertain. The idea of a well-equipped communications trailer has been discussed informally at coffee and among individual members. Offers of money and equipment have already been made. Whether we choose to support this project as a club or as individual hams it sounds like a good chance to demonstrate in a meaningful and visible way the public service aspect of our hobby.

The possibility of purchasing club jackets was brought up; no action was taken.

Volunteers were solicited for a walk being sponsored by United Cerebral Palsy.

Don K9UXP and Bill WB9ULA have been investigating an intermod problem on the 31/91 machine and UXP reported their findings. Since the 84/24 machine seems less susceptible to such problems - perhaps due to a different IF - the Sacred Heart machine could be exchanged with the present 91 machine. With new crystals in each machine, Sacred Heart would still be 84/24 and the tower would still be our wide-area repeater on 31/91. A motion passed authorizing K9UXP to purchase the necessary crystals and follow through on switching the rigs.

UXP also reported a spectacular lightning strike at the tower; there was no apparent damage to the repeater.

Mike WD9DLM reported on the Rehab Radio project. A high-gain antenna is needed for tests to see if the Twin Cities can be accessed easily. Joe Jarecki offered a 13 element beam for a few days for trials. The possibility of a tower for the Rehab project was discussed briefly.

but will not be pursued at this time. Terry K9VQP reminded members that more volunteers are needed for the project.

Darold N9FLK suggested a sign-in book be used at the meetings and will purchase such a book.

ANNOUNCEMENTS

Lyle WB9OKQ read a list of items he has for sale. (Ron KE9BM suggested that such things could be posted before the meetings and taken down after the meeting. Others thought that was a good idea.)

LJK reminded members that the rosters are finished and here tonight for distribution.

The meeting was adjourned at 8:22 p.m.

Respectfully submitted:

Robin NI9R -- Sec. EARC



A long overdue reunion took place recently in Wisconsin Dells, when your editor saw Howard (K6TER) and Evelyn Trimble, of San Diego, CA. Recognition was no problem, even tho 26 long years have passed since we last saw one another! Howard is a BSSS reader, and likes our new publication format. You'll see more about the reunion in next month's issue, hopefully with a photo.

The Wisconsin QSO Party results will soon be out, and, when they are, you'll see them here in BSSS. We asked for Party photos a few issues ago, and received only one response, the ones you see in this issue. If you have some good pix of your Party station at work, we'd like to run them with the results. Please send them to my address on page 2. And, please note that my address has changed from 7th Street to 412 1/2 Ash St., Baraboo WI 53913.

WPDR 1350 **WDDC FM100**

PORTAGE, WI

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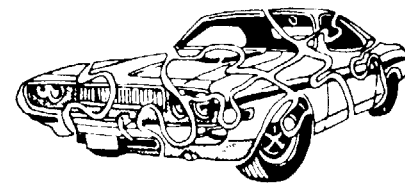
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Talk-in on 147.84/.24

Advance Ticket Order Form

Admission Tickets at \$2.00 each.

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Street _____

City _____ State _____ Zip _____

Mail to: Gene Lieberg
2840 Saturn Ave.
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All Advance Tickets Will be Held at the Door
(Postal Regulations)

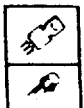
Saturday, July 11, 1987

4H Barns on Fairfax - Behind Highland Mall

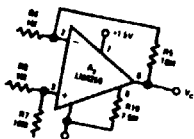
8:00 a.m. to 2:00 p.m. \$2 in Advance
\$3 at Door

- Free Tables for Hams
- Free Coffee
- Food
- Door Prizes
- Amateur License Tests Given
From 9 a.m. - 1 p.m. - all walk-ins
- Commercial Exhibitors
- Computers
- Satellite TV

John's



Junk Box



John W. Frank, WB9TQG
P.O. Box 5113
Madison WI 53705

"ELMER'S" CPO

Here's a simple homebrew project for any aspiring Ham. From my point of view, a code practice oscillator is inexpensive, safe, useful, and easy to build.

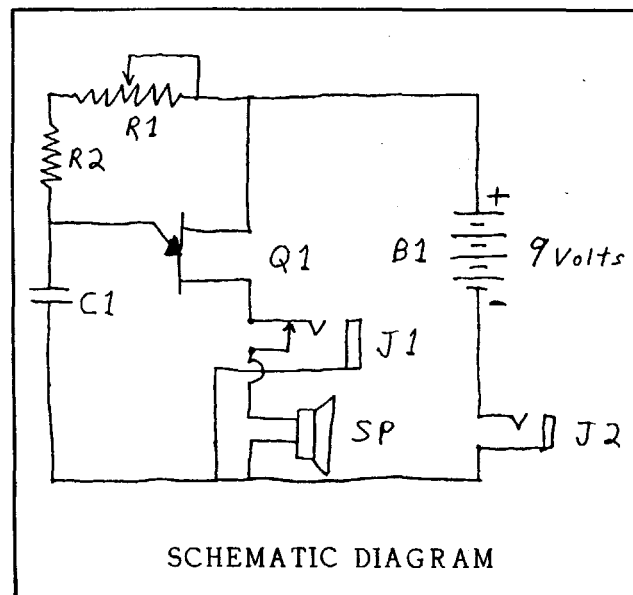
The heart of this circuit is a unijunction transistor. R1 is the pitch control. If you need to change the volume, change the battery voltage; more voltage gives you more volume and less voltage, less volume. J1 is the headphone jack. J2 is the key jack. The size and impedance of the speaker isn't really critical. I used a 3 inch permanent magnet speaker from an old transistor radio.

Many readers may recognize the circuit as an example of a relaxation oscillator.

tor. Although the theory behind this type of oscillator is beyond the scope of this article, it is a very simple circuit and it is very easy to make it work.

If any of you Elmers help a budding radio operator build this circuit and then find out that he (or she) is also interested in music, don't panic. Change R1 to a 1.5 meg pot and change R2 to 470K. Voila, Elmer's CPO has just been transformed into Elmer's metronome.

73 and Happy Homebrewing,
John, WB9TQG



SCHEMATIC DIAGRAM

PARTS LIST

R1	10K pot
R2	1.5K 1/2 watt
C1	.22 mF 50 volts
SP	8 ohm speaker
J1	"closed circuit" jack
J2	"open circuit" jack
B1	9 volt battery, type 2U6 or equivalent
Q1	unijunction transistor, 2N2646 or equivalent

Identify yourself with our custom engraved call pins

1 line 1"x3"\$1.00
2 lines 1"x3" ...\$1.25
3 lines 1 1/2"x3" .\$.1.75

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27 Verlynn Ave. • Hamilton, OH 45013

Guest Editorial

A VIEW FROM AN 18-WHEELER

Dan Schobert, W9MFG
Plover, WI 54467

Amateur Radio finds its justification in public service. All the fun things associated with our hobby: contests, DX, ATV, packet, etc., will be lost when we cease to serve the public. We must be public service minded.

Other communications services are constantly nipping at our heels, ready to take our frequencies. We will keep Ham Radio vital as long as our public service record is maintained.

Our first line of defense has to be the various organized traffic nets. Here is daily, organized practice in handling information. The National Traffic System (as well as MARS, etc.) is a national reservoir of accomplished operators, ready to provide emergency communications. It is surely reasonable for every Ham to be at least familiar with this realm.

Another area of public service is the weather/Skywarn efforts. A highly visible, and I understand, well appreciated service. Participation is encouraged.

A third area is one which is growing: The increasing number of Hams with mobile units, both HF and VHF/UHF. As mobile operators, we have many opportunities to provide public service, by reporting various highway-related problems.

This has happened to me on many occasions, and, I'm sure, my experiences are not unique. Traffic hazards, breakdowns, as well as accidents give frequent reasons to notify the proper authorities. Many times actual contact via a repeater autopatch has been possible between a driver and the police.

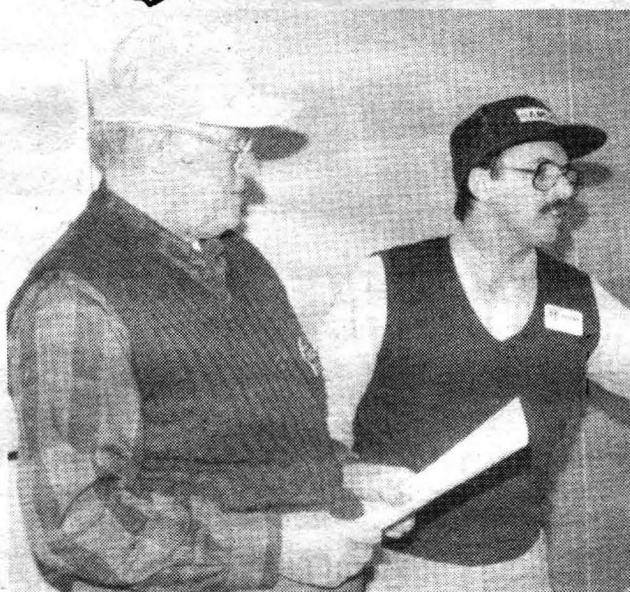
A word of caution: Be careful when considering a call for a road service truck, lest the broken down party leaves the scene before the called-for help arrives. Road service people don't take kindly to such reports. If in doubt, work through an official agency.

Sometimes I have found various operators unwilling to make a call because a call to the highway patrol, for instance, may be a toll call. What some Ham operators fail to realize is the vast communications network connecting police agencies coast to coast, all available with a call to a local agency. By calling a local office, information can be relayed to other departments via point-to-point radio, teleprinter, etc. This was brought to mind some time ago when I came upon an accident south of Wichita, Kansas, on I-35. In the middle of the night, no one was available on the local repeater, so I contacted, via 75 meter SSB, a station in Iowa, who called his local village police, and soon Kansas highway patrolmen were on the scene.

Ham Radio and public service - they go hand in hand.



HERE and THERE



The AMSAT booth at the April 5 MARA Swapfest was capably manned by Les Peterson, W9YCV, and Tom Wensch, N9HR. K9ZZ photo

SMall Talk



By Richard R. Regent, K9GDF
Wisconsin Section Manager
5003 South 26th Street
Milwaukee WI 53221

Q. How can I get an Extra Class certificate from the League?

A. Many years ago, the FCC stopped issuing its 7 by 9 inch special Extra Class certificate. But, by popular demand, the League continued awarding a similar certificate to attest to the achievement. The 8-1/2 x 11 inch beautiful blue lithographed certificate with gold Amateur Extra Class seal from ARRL comes with your name, call and date. For your certificate, send \$3 and a copy of your Extra Class license to the ARRL Headquarters, Award Branch, 225 Main Street, Newington, Connecticut 06111.

Q. Is the DXCC Golden Jubilee award still available?

A. The special 50-year award offered by the ARRL to commemorate the first announcement of DXCC in 1937 is still available. See the September, 1986 issue of QST for a full color view on page 12 and rules on page 60. Basically, to get your DXCC Golden Jubilee Award, work 100 DXCC countries during 1987 on any mode or band (except 10 MHz). No QSLs are required - just a log extract showing call sign, country, date and band, certified by the applicant to be correct. The attractive award will be sent to each qualifier. The application fee is five dollars.

Q. How can I help out the CW traffic nets?

A. Beefing up Wisconsin CW Net attendance is a constant Net Manager goal. Sometimes the net control station can feel lonely after sending two check-in stations off frequency to handle traffic. The NCS then is alone. More of us should participate in CW traffic handling to keep the National Traffic System functioning. Also, we can get some free code practice. Wisconsin nets range in speeds from the slow 5 WPM Wisconsin Novice Net (WNN) on 3723 KHz at 6 p.m., to the 10 WPM Wisconsin Slow Speed Net (WSSN) on 3645 KHz at 6:30 p.m., to the over 13 WPM Wisconsin Intrastate Net on 3662 KHz at 7 p.m. and 10 p.m. The variety of speeds and friendly folks on the CW nets make it fun to help and provide support in representing Wisconsin in the system.

TOO EARLY TO THINK ABOUT FIELD DAY?

Summer's almost here, and when most folks are thinking of swimming and vacations, hams are thinking of Field Day! To give Field Day groups extra opportunities to copy the WIAW Field Day Message, four additional bulletins will be transmitted. An extra CW bulletin will be run at 1400 UTC (9 a.m. CDT), and an extra phone bulletin at 1500 UTC (10 a.m. CDT) on both Saturday and Sunday mornings. See April QST, p. 15, for a detailed bulletin schedule.

(From The ARRL Letter)



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Wisconsin Nets Association Ltd.

WISCONSIN NETS

NET	WNA	FREQ	UTC	CDT	MANAGER
BWN	YES	3984	1100Z	0600	WD9IID
BEN	YES	3985	1700Z	1200	KA9RII
WSBN	YES	3985	2230Z	1730	WB9ESM
WNN	YES	3723	2300Z	1800	N9DGL
WSSN	YES	3645	2330Z	1830	N9BDL
WIN-E	YES	3662	0000Z	1900	WB9ICH
WIN-L	YES	3662	0300Z	2200	KC9CJ
NWTN	YES	34/94	2330Z	1830	W9ZZM
WCWTN	YES	31/91	2330Z	1830	NK9L
GR.BAY	NO	72/12	0145Z	2045	WB9NRK
			THU.	WED.	
RACES	NO	3993.5	1715Z	1215	WC9AAG
			USB TUE. & THUR.		
RACES	NO	3993.5	1300Z	0800	WA9DAY
			LSB SUN.		

Section Manager's notes



WHAT'S A PACKETGRAM?

By Richard R. Regent, K9GDF
5003 South 26th Street
Milwaukee WI 53221

What's faster than a speeding radiogram and able to leap across countries in a single bound - besides Superman? The answer: the packetgram, a formal piece of message traffic sent by packet radio - and a word I just made up.

Wisconsin's crack traffic handler in Greenfield, Les Peterson, W9YCV, decided to compare the speed and leap capabilities of radiograms and packetgrams. Les devised a test after he got acquainted with packeteer Tad, KT7H, in Seattle, Washington.

The plan was for KT7H to simultaneously send duplicate messages to W9YCV at 1800Z, one by packet radio and another through the National Traffic System (NTS).

And now for the results. The packetgram must have taken one of those experimental Skylight paths and arrived at the WD9DHI bulletin board, probably with little operator intervention. At 2100Z, during one of the two daily checks Les routinely makes of the board, he found the message was there waiting to be read, just three hours from being sent. Besides the 15-word test message, the packetgram had an additional 50 words describing the details of the test. Les looked at his monitor screen, said "Wow! That's fast!" and quickly sent a reply packetgram to Tad describing the amazing speed. Les would find out later that his reply got to Tad in Washington the same evening.

Meanwhile, let's trace how the radiogram is doing on the NTS. Tad put the message on the

local Washington Net, where it was relayed to the Seventh Regional Net and then to Pacific Area Net that evening. The next day, the radiogram was listed on Central Area Net and then relayed to the Ninth Regional Net. One more day, and it was on the Wisconsin Sideband Net, where NI9E, Jeff, delivered the 15-word message by telephone to Les' wife Grace. Les was given the message very soon afterward. It took three days and quite a few dedicated traffic handlers to relay this radiogram from Seattle to Greenfield.

Who's the winner? Well, it took three days for the formal NTS 15-word message and three hours for a 65-word packetgram, a ratio of 24 to 1. The winner by a leap is the packetgram. This brief test cannot be considered representative or typical of relaying messages between any two locations at any time of the day, but it does point out the potential of packet radio as being fast, and we already know it is error-free. Now, let's hear from the rest of you packet pace-setters.

Guest Editorial

Joe Imilkowski, W9CWD
5501 Jan Dr.
Madison, WI 53711

220 MHZ GIVE AND/OR TAKE

It's nice to see so much of the amateur community showing interest in the latest threat of commercial encroachment on the 220 MHz band. We have to defend our use of these frequencies, where in some major cities, we have more than a hundred amateurs squeezed into 16 pairs of frequencies per megacycle. While the COMMERCIAL Interests (COMMI's pronounced com-e with the e sound as in he) maintain they could put a thousand users on 100 narrow band frequency pairs per megacycle.

Now we must defend ourselves against these COMMIs, who wish to introduce the idea we can put 500% more communication channels in the same spectrum than we do now. We must let the FCC know not only do we not want the COMMIs to get our 2 megacycles, but we don't want them as neighbors either. If we permit the COMMIs to build equipment that is capable operating next to our 220 band, it will only be a matter of time before somebody will take this commercial quality narrow band equipment and use it on our 220 MHz band. This situation would be intolerable, as more amateurs are exposed to this new tech gear that can increase their range by 50% or more in less than 1/5 of the bandwidth, they will have to scrap dozens (nay, maybe even 100) of old technology 220 FM repeaters. All of the manufacturers of 220 FM gear would have to retool to build narrow band SSB gear. The cost of this change will be passed on to the amateur who will have to purchase all new radios. We must make it very clear, WE DON'T WANT THIS TO HAPPEN!

I suggest that we give back the 30, 15, and 12 meter bands to their previous owners, and take back 11 meters. The FCC would certainly take notice of such a gesture.

DE JOE/W9CWD

MORE FREE WANT ADS

WANTED: Speaker cabinet for a Hammarlund HQ-129 or HQ-140. Mark Koppp, 5562 Hwy. 113-19, Waunakee, WI 53597. (608) 849-7578

WANTED: FC-102 antenna tuner. Joe Jarecki, KA9VKH. (715) 836-7854

WANTED: YAESU FT-101, 101E or 101EE with digital frequency readout meter. Rick Plouffe, Rte. 3, Box 33, lot 2. Baraboo, WI 53901.

FOR SALE: Lakeshore Industries P-400-GG linear, 80-10, and 11, 400 Watts out, 4-EL38s, clean. \$250.00. Palomar Engineers all-band pre-amp, 1.8-54 MHz., manual, clean. \$90.00. G. Loudon, N9CCI, 205 E. Main St., Omro, WI 54963. (414) 685-6172.

SMUG, Sinclair Milwaukee Users Group. Get full use of your ZX, IS1000 or IS2068. Write to SMUG, P.O. Box 101, Butler WI 53007.

WISCONSIN AMATEUR RADIO GOLF OUTING

Badger State Smoke Signals would like to know if there are any golfers out there interested in participating in a state Amateur Radio golf outing. If you are interested, let Ken Ebner, K9EN know by post card, radiogram or packet. If enough interest, I will see what I can schedule.

fore de K9EN

YOU KNOW YOU'VE STUDIED MICRO PROCESSORS TOO LONG IF: from the HAM RAG

1. You can't make change with the bartender because he doesn't understand hexadecimal.
2. You tried to plug a sixteen pin connector into a city bus.
3. You were disappointed to find the the TV show "Chips" was about policemen.
4. Your stereo emits only bit patterns... and you think it sounds just fine.
5. You think a movie rated hard core is about dynamic ram.
6. You went to the movie because it has close-ups of dual floppies.
7. You write your home address in binary.
8. You thing the green stuff in the ocean is cmos.
9. You think the green stuff by the dog house is pmos.
10. People are putting the byte on you.
11. You don't mind people calling you a dip.

If any of the above apply to you, then you are becoming a social mosfet.

April showers bring May flowers, but did you realize that May showers are caused by June brides?

A business genius is a man who knows the difference between being let in a deal and being taken in on one.



THE WISCONSIN PACKETEER

Wisconsin Amateur Packet Radio Association (WAPR)
P.O. Box 436 Cedarburg, Wisconsin 53012-0436

WA9KEC PBBS IS OFF 145.01

HF BEACONS

Due to the overwhelming usage of the WA9KEC PBBS on 145.01 by multi-digipeating stations, Roy has turned off station access to the .01 port. The only stations capable of accessing his system on .01 will be other PBBSs that are flagged for access. The 145.09 port will remain open to individuals.

NET/ROM SHIPPED!!

For those of you who have ordered NET/ROM and are anxiously awaiting delivery... I am pleased to report that the first fifty NET/ROM orders were mailed out Tuesday (5/12), and another fifty or so will be mailed out in the next day or two, clearing our initial order backlog. This is a couple of days ahead of our announced ship date of Friday 5/15, and we are very pleased about that.

This first 100 NET/ROM nodes have been shipped to all regions of the U.S., to Canada, Norway, West Germany, and Japan. Packeteers who have been curious to see and try NET/ROM should keep your TNCs in monitor mode and watch for funny frames... many of you will be seeing a NET/ROM node come on-line in your vicinity over the next week or two.

In the next few weeks, I will be creating a database of all NET/ROM nodes that have been ordered and shipped, and I will probably upload this list into HAMNET DL9 from time to time so interested parties can keep track of the growth of the network.

New NET/ROM sysops who need assistance or have technical questions should send them to me either on HAMNET or via EASYPLEX. I check in at least once a day, often twice, so you can be assured of a rapid reply.

Best 73... Mike W6IXU

NET/ROM MANUAL AVAILABLE ON LZQ-1

For those who need it, the entire NET/ROM instruction manual is available by special request on the W9LZQ-1 BBS minus the illustrations and index. As this is an extremely lengthy file (nearly 100K), it is available only by special request and is to be downloaded only between the hours of midnight to 6:00 a.m.

If you have need for this document, send Kent a message and he will get back to you. If you have an IBM-PC compatible, it would be much more efficient to send a disk with return postage to W9LZQ for a copy of the NET/ROM instruction manual.

73, Kent W9LZQ

Many hams aren't aware of the worldwide beacon schedule on 14.100 MHz. There are nine crystal-controlled beacons that each transmit for approximately one minute automatically, one after the other, over a ten minute period. Each beacon transmits four series of nine second dashes using 100 watts, 10 watts, 1 watt and .1 watt. By listening to the beacons, you can get a quick appraisal of where the band may be open around the world, and may compare receivers and antenna systems by switching them during the same nine seconds dash period. The latest beacon schedule is as follows:

TIME	STATION	QTH
00	4ULUN/B	NY
01	W6WX/B	CA
02	KH60/B	HONOLULU
03	JA2IGY/B	JAPAN
04	4X6TU/B	ISRAEL
05	OH2B	FINLAND
06	CT3B	MADEIRA IS.
07	ZS6DN/B	S. AFRICA
08	LU4AA	BUENOS AIRES

BEAM HEADING PROGRAM AVAILABLE

For all of you that have an IBM/clone and would like to have a good program for beam headings, I now have one available. If you would just want a copy of the beam headings from your QTH, I can print one out for you. I will need your longitude & latitude as exact as possible. Looks like an excellent program. Leave a message to me on any of the PBBS's.

Dan, WB9TYT

PACKET AROUND THE WORLD....HK LAND

With so much packet growth and development in the United States, it is easy to overlook the accomplishments of amateurs in other countries toward the development of this most recent mode to Amateur Radio. In recent months, there has been a tremendous increase in HF packet activity, enabling a better perspective of amateur participation world-wide.

I recently had the pleasure of working Carlos Rey - HK3CFM, P.O. Box 76616, Bogota, Columbia. He was operating under the callsign HK2LSC from Cucuta near the Venezuelan border. Carlos has a background in computer electronics, so, Packet radio was a natural course in his Amateur Radio endeavors.

At the time, Carlos was testing a Pac-Comm

220 TNC for installation as a wide-area digipeater for the Cucuta area as part of Columbia's national amateur VHF packet network. The new digipeater would be operational the following day, located on the summit of a high mountain near Cucuta. He has personally installed four of the seven digipeaters that currently cover more than 65% of Columbia on VHF. Other sites include Bogota, Medellin, Cali, Bucarama, and Villavicencio. Complete coverage of the country is expected to become a reality in early July allowing reliable operation to surrounding nations.

Carlos uses a Radio Shack Model 100 computer for portable operations and also operates a 24 hour VHF PBBS from his home in Bogota. He reported that Packet has become very popular, will almost 100 stations using his PBBS in the last month. The new digipeater firmware, such as Net/Rom, is of great interest to him, however, information and availability is not as current as in the United States and he would appreciate any information from U.S. amateurs regarding specifications, new releases of firmware and ordering.

I was impressed by the dedication of Colombian amateurs toward the future of Packet radio in their country and hope the other countries are pursuing similar goals.

If you work foreign amateur packeteers, take the time to ask them about their country's development of Packet radio, you might be surprised at their activities.

de Steve - WB9ZRE

FO-12 PACKET MAILBOX

JAMSAT announces commencing of new operation mode of FO-12

As of today (02May87), FO-12 is in charging mode and preparing itself for the test of new operation mode commencing soon.

The new mode allows "ON DEMAND" operation of mode JD, which means that the bird is usually in the listening mode and starts transmitting mode JD PSK signal at 435.910 MHz immediately after receiving any acceptable AX.25 frame including UI through one of four uplink channels, 145.85/.87/.89/.91 MHz and continues its operation as long as she receives AX.25 frames in less than three minutes interval. The bird goes back to the listening mode when she does not hear AX.25 frame for more than 3 minutes.

This "ON DEMAND" operation happens while the bird is in "ON" period which occurs every other 2 hours. While the bird is in "ON" period, you will hear 2 - 3 second short PSK burst every minute, so that you will know that the mode JD is available and can be switched on by sending some packets to the bird.

You will hear nothing while it is in 2 hours "OFF" period.

Current charging mode will end at ORB.# 3287 on May 3rd, then the bird will be used by the software team from ORB.# 3288 till May 5th. Public usage of the bird during this maintenance period would be limited when such necessity arises or limited by the program.

This new operation mode will become the base of coming FO-12 BBS service and the digital repeater service.

Weekly schedule will be determined after enough power usage data for this new mode has been acquired and analyzed.

FO-12

BBS PROGRAM DEVELOPMENT PROGRESS

The software is running on the JAS-1 engineering model and being tested by the JAMSAT software team. The first version of BBS program which has limited number of commands will be loaded and tested on FO-12 really soon.

Please keep in mind that even though you find PSK beacons from FO-12 BBS, it does not mean that the BBS is available for public usage. While the software team is testing its functions, your attempt to connect to FO-12 (8J1JAS) might fail and receive busy from it.

The first version of the program would have following commands :

- F List latest 10 message headers with message number
- F+ List 10 more message headers, you may repeat this
- R <N> Read a message numbered <N>
- W Send a message. You will be asked receiver and subject. Send <CR> . <CR> or <CR> Z <CR> to end the message
- K <N> Kill a message numbered <N>. A message being read by other station(s) cannot be killed. FO-12 BBS is a multi-user system.
- H Help. It may list commands which are not currently available, such as M and A

Your INC should be set as follows :

Protocol It has to be the version 2. WABDED proms are needed for TNC-1.

command TNC-1 : V2

TNC-2 : AX25L2V2 ON

T1 timer : 6 seconds or longer

command TNC-1 : F6

TNC-2 : Frack 6

Max Frames : 2 or 3 is suggested.

command TNC-1 : 02 or 03

TNC-2 : Max 2 or Max 3

NOTES :

Call sign of FO-12 which you use to connect is 8J1JAS.

There will be no command to logout. Simply disconnect by TNC's disconnect command.

No personal mail will not be supported by this first version. Your messages can be read by anyone and you can read messages addressed to someone else.

While BBS is in operation, digital repeater is disabled.

Digipeated packet will not be accepted by FO-12.

Increasing number of users will slow its response and require longer T1 time.

The maximum acceptable length of the data portion of a packet (Paclen) is 199. It should be set shorter.

FO-12 transmits at Paclen=128 and Maxframes=1.

This information is preliminary and may be changed without notice.

de JA2PKI / JAMSAT

Edited by KD9QB. Send comments to KD9QB @ KD9LP.

VIEWS FROM A HILLTOP

TOM II

A few months ago, the question of vertical versus horizontal antenna polarization for VHF packet operations was raised. This month we have a few ideas for your consideration.

Many years ago, this author participated in some informal antenna polarization experiments. The data from these trials indicated that polarization differences between two vhf antennas of 45 degrees or less produced negligible losses. It seemed the RF fields would align themselves to the receiving antenna's polarization. The losses became significant at about 60 degrees difference and maxed out at 18 to 20 dB when the antennas had a 90 degree polarization differential. These tests were done over 10 to 15 mile non line of sight paths.

Perhaps, you could compromise and mount the beam with 45 degree tilt as still have an acceptable gain and pattern in both the vertical and horizontal planes. Does any one out there want to give it a try?

Personally, I have a strong preference for horizontal antennas on VHF frequencies. Beam patterns are much cleaner and more predictable when there is no mast in the plane of the antenna. Since packet is usually a point to point visual mode, the concern of communicating

with mobiles in motion should not be a major consideration. If someone is brave enough to operate packet mobile, horizontal mobile antennas will not be a problem. A few decades ago, a major mobile communication mode was six meter AM. At that time, there was no shortage of practical horizontal mobile antennas. Today's VHF/UHF mobile SSB operators are rediscovering Ed Tilton's "Big Wheel" and the halo antennas.

Items to be considered in future columns are: omni vs directional antennas, "commercial" messages, moving casual operations off "backbone" frequencies, overselling "error free" packet to emergency operations administrators, and simple explanations of some packet buzz words like cyclic redundancy checks (CRC). If you have any suggestions (or questions) for future columns, please send them to TOM II at the WAPR address or post them on WA9KEC PBBS (send TOMII).

FREE WANT ADS

in BADGER STATE SMOKE SIGNALS

Yes, they are FREE. BSSS will run your WANT AD listing Amateur Radio related equipment you wish to buy, sell, trade, or whatever. Non-commercial listings only. Length and number of free ads may be subject to space limitations. We reserve the right to refuse any listing that we feel is inappropriate. Send to Kenneth A. Ebner, K9EN, 822 Wauona Trail, Portage, WI 53901.

FOR SALE: Mike: Electro Voice model 15, \$15.00; Transmitter: HT-37, \$80.00; Receiver: SX-111, \$50.00 Transceiver, HW-100, \$150.00. Robert Johnson, WB9EIW, N6646 Fawn Circle, Pardeville. 53954. (608) 742-6460.


FOR SALE: Kenwood TS-180S, complete with power supply, speaker and Microphone. \$600.00. Lyle Lytle, W6599 C.T.H. P, Pardeville, WI 53954. (608) 429-2656.

FOR SALE: 75 assorted stamps. \$1.00 - choose U.S./foreign. Richard R. Regent, K9GDF, 5003 South 26th St., Milwaukee, WI 53221.

WANTED: Sheets of the old five-cent Amateur Radio stamps issued in 1964. Gary Heilmann, WA9FRQ, 1171 Mather, Green Bay, WI 54303.

WANTED: Phonograph records from 1950's, 60's & 70's, in good playable condition. AC9J, LaVonne. (608)-273-3217


(more ads elsewhere this issue)



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Unusual Trivia Quiz



By Gene Santoski, K9UTQ
1220 18th Avenue South
Wisconsin Rapids WI 54494

QUIZ NO. 5 IN A SERIES

1. What is the mode designator for Single Sideband Suppressed Carrier emission?
2. What is the formula for finding the length of a VHF/UHF antenna in inches?
3. Where is ARRL Headquarters located? (What city?)
4. What is the velocity factor of RG-8/U coaxial cable?
5. What is the formula for inductive reactance?
6. What do the letters R.A.C.E.S. represent?
7. Who was the Hallicrafters company named after?

8. Radio waves that travel close to the earth's surface are known as _____ waves.
9. What is the most common shift used on HF amateur RTTY?
10. What do the letters DTMF represent?

Please submit your answers to K9UTQ; address above. A prize will be awarded to the person submitting the most correct answers after 12 quizzes have been published. The answers to the May quiz are on page 7.

Send good quality black and white photos to Badger State Smoke Signals!



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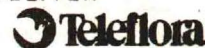
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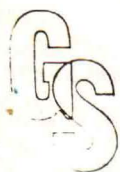
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